said transmitter ~~being~~ is configured to communicate a logical 1 by transmitting a positive

amplitude optical pulse at a first carrier wavelength and <u>configured</u> to communicate a logical 0

by transmitting a positive amplitude optical pulse at a second carrier wavelength.

5.   (Currently Amended) The system of claim 1 wherein said transmitter is configured to

transmit ~~at least two distinct optical beams;~~ <u>a first optical beam comprising the first optical</u>

<u>carrier signal and a second beam comprising the second optical carrier signal</u> ~~each beam~~

~~comprising at least one of said discrete optical carrier signals~~.

6.   (Currently Amended) The system of claim 5 wherein said receiver is configured to

receive ~~at least two distinct beams,~~ <u>the first optical beam comprising the first optical carrier</u>

<u>signal and the second beam comprising the second optical carrier signal</u> ~~each beam comprising at~~

~~least one of said discrete optical carrier signals~~.

7.   (Currently Amended) The system of claim 1 wherein said transmitter comprises at least

one multiplexer to multiplex ~~said~~ <u>the first and the second</u> optical <u>carrier</u> signals.

8.   (Currently Amended) The system of claim ~~7~~ <u>1</u> wherein said receiver comprises at least

one demultiplexer to demultiplex ~~said~~ <u>the first and the second</u> optical <u>carrier</u> signals.

9.   (Currently Amended) The system of claim 1 wherein <u>the first and second optical carrier</u>

<u>signals</u> each ~~of said at least two discrete optical carrier signals~~ comprises a carrier wavelength in

the range of about 300 to about 10,000 nanometers.

10.   (Currently Amended) The system of claim ~~9~~ <u>1</u> wherein <u>the first and second optical carrier</u>

<u>signals</u> each ~~of said at least two discrete optical carrier signals~~ comprises a carrier wavelength in

the range of about 300 to about 1,500 nanometers.

11.   (Currently Amended) The system of claim 9 1 wherein the first and second optical carrier

signals each of said at least two discrete optical carrier signals comprises a carrier wavelength in

the range of about 1,500 to about 10,000 nanometers.

12.   (Currently Amended) The system of claim 9 1 wherein the first optical carrier signal

comprises said discrete optical carrier signals comprise a first carrier wavelength and the second

optical carrier signal comprises a second carrier wavelength, in which the difference between

said the first carrier wavelength and said the second carrier wavelength is being less than about

100 nanometers.

13.   (Currently Amended) The system of claim 9 1 wherein the first optical carrier signal

comprises said discrete optical carrier signals comprise a first carrier wavelength and the second

optical carrier signal comprises a second carrier wavelength, in which the difference between

said the first carrier wavelength and said the second carrier wavelength is being greater than

about 1000 nanometers.

14.   (Currently Amended) The system of claim 1 12 wherein said transmitter is configured to

change a the first and the second carrier wavelengths of each of said at least two discrete optical

carrier signals.

15.   (Currently Amended) The system of claim 14 10 wherein said transmitter is configured

to change the first and the second carrier wavelengths of each of said at least two discrete optical

carrier signals from being within a range from about 300 to about 1,500 nanometers to being

within a range from about 1,500 to about 10,000 nanometers.

16.   (Currently Amended) The system of claim 14 11 wherein said transmitter is configured

to change the first and the second carrier wavelengths of each of said at least two discrete optical

~~carrier signals~~ from being within a range from about 1,500 to about 10,000 nanometers to being within a range from about 300 to about 1,500 nanometers.

17.   (Currently Amended) The system of claim 14 wherein said transmitter is configured to change the <u>first and the second</u> carrier wavelength<u>s</u> ~~of each of said at least two discrete optical~~ ~~carrier signals~~ in a random manner.

18.   (Currently Amended) The system of claim 14 wherein said transmitter is configured to change the <u>first and the second</u> carrier wavelength<u>s</u> ~~of each of said at least two discrete optical~~ ~~carrier signals~~ in a programmed manner.

19.   (Currently Amended) The system of claim 14 wherein said transmitter is configured to embed control bits into at least one of <u>the first and the second</u> ~~said discrete~~ optical carrier signals for communicating future changes in carrier wavelengths to said receiver.

20.   (Currently Amended) The system of claim 14 wherein said receiver is configured to decode said control bits and to receive the changed optical carrier signals including <u>the</u> changed carrier wavelengths.

21.   (Original)   The system of claim 1 wherein said transmitter comprises a member of the group consisting of a tunable laser, a tunable Fabry-Perot filter, a tunable Mach-Zehnder filter, an active Bragg grating wave guide, and an acousto-optical filter.

22.   (Original)   The system of claim 1 wherein said receiver comprises a member of the group consisting of an interference filter, a dense wavelength division multiplexing interference filter, a wide-angle geometry (WAG) detector, a wavelength dispersive element, a Fabry-Perot filter, and a switchable diffraction grating.

23.   (Original)   The system of claim 1 wherein said transmitter is configured to transmit

data using multiple data channels, each of said data channels having first and second ones of said

discrete optical carrier signals.

24.   (Original)   The system of claim 23 wherein each of said multiple data channels

includes a bandwidth greater than about 200 gigahertz.

25.   (Original)   The system of claim 24 including at least 32 data channels and having a

system bandwidth of greater than about 6.4 terahertz.

26.   (Original)   The system of claim 23 wherein said transmitter is configured to multiplex

said multiple channels into a single beam.

27.   (Original)   The system of claim 23 wherein said transmitter is configured to multiplex

said first ones of said carrier signals for each of said data channels into a first beam and said

second ones of said carrier signals for each of said data channels into a second beam.

28.   (Currently Amended) A wavelength modulated optical communication based fiberless

optical communication system comprising:

multiple a plurality of transmitters, each of the plurality of transmitters being configured to

encode information into at-least a first two discrete optical carrier signals and encode the inverse

of the information into a second optical carrier signal;

multiple a plurality of receivers, each of the plurality of receivers being configured to receive and

decode the information from said at least two discrete the first optical carrier signals and the

inverse of the information from the second optical carrier signal;

multiple a plurality of user ports, each of the plurality of user ports comprising including at least

one of said multiple the plurality of receivers; and

multiple a plurality of hubs, each of the plurality of hubs being configured for transmitting and receiving data with at least two of said multiple the plurality of user ports.; and multiple a plurality of repeaters each configured to receive, amplify, and route the first and the second optical carrier signals to at least one member of the group consisting of other repeaters, hubs, and user ports.

29.   (Currently Amended) A method for free space communication of information comprising:

encoding the information into at least two discrete a first optical carrier signals and the inverse of the information into a second optical carrier signal;

transmitting said the first and the second encoded optical carrier signals;

receiving said the first and the second encoded optical carrier signals; and

decoding the information from said the first optical carrier signals and the inverse of the information from the second optical carrier signal.

30.   (Original)   The method of claim 29 wherein said encoding comprises encoding digital information.

31.   (Original)   The method of claim 30 wherein said encoding digital information comprises encoding a high amplitude optical pulse at a first carrier wavelength to correspond to a logical 1, and encoding a high amplitude optical pulse at a second carrier wavelength to correspond to a logical 0.

32.   (Currently Amended) The method of claim 29 further comprising:

multiplexing said at least two discrete the first and the second optical carrier signals into a single beam; and demultiplexing the single beam into said discrete the first and the second optical carrier signals.

33.   (Currently Amended) The method of claim 29 further comprising:

multiplexing a plurality of data channels into a single beam, each of said data channels

having first and second ones of said ~~discrete~~ optical carrier signals; and

demultiplexing said single beam into said first and second ones of said ~~discrete~~ optical

carrier signals.

34.   (Currently Amended) The method of claim 29 further comprising:

multiplexing a plurality of data channels into first and second beams, each of said data

channels having first and second ones of said ~~discrete~~ optical carrier signals, said first beam

including said first optical carrier signals of each of said data channels, and said second beam

including said second optical carrier signals of each of said multiple data channels; and

demultiplexing said first and second beams into said first and second optical carrier signals of

said data channels.

35.   (Original)   The method of claim 32 wherein said multiplexing and said

demultiplexing comprise dense wavelength division multiplexing.

36.   (Currently Amended) The method of claim 29 wherein ~~each of said at least two discrete~~

the first and the second optical carrier signals each comprises a carrier wavelength in the range of

about 300 to about 10,000 nanometers.

37.   (Currently Amended) The method of claim 29 further comprising changing the carrier

wavelength of ~~each of said at least two discrete~~ the first and the second optical carrier signals to

~~another~~ different wavelengths.

38.   (Original)   The method of claim 37 wherein a first pair of carrier wavelengths, λi and

λj, are changed to a second pair of carrier wavelengths, λk and λl, wherein $(\lambda k-\lambda i)/(\lambda k+\lambda i)<0.5$.